Third United Nations International Conference on the Peaceful Uses of Atomic Energy

A/CONF.28/A/702
YUGOSLAVIA
February 1964
Submitted in:
ENGLISH and FRENCH

Confidential until official release during Conference

Abstract

ON THE URANIUM-HYDRAZINE SYSTEM

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Several reactions of the non-aqueous and aqueous hydrazine with different uranium salts (UF_6, UF_4, $UO_2(NO_3)_2$ etc.) are described which could be possibly used as intermediate steps in the preparation and purification of uranium fuels.

The products of the reaction of non-aqueous hydrazine with uranium fluorides (UF_6 and UF_4) were analysed and compared with compounds obtained by the reaction of hydrazine fluoride with metallic uranium and uranium oxides.

In the system hydrazine hydrate-uranyl nitrate-water different precipitates with uranium in (+6) and (+4) valence states were obtained depending on the reaction conditions. The precipitates were decomposed and several uranium oxides were found to be formed during the decomposition process.

The basic apparatus for the experimental work under specified conditions is also described.